



*A Partnership To Restore And Protect The Sound*

## COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN FOR LONG ISLAND SOUND

### PUTTING THE PLAN IN MOTION 1997 - 1998

1997 marked the third year of implementation of the *Comprehensive Conservation and Management Plan* for Long Island Sound, which was approved by the US Environmental Protection Agency (EPA) and the states of Connecticut and New York in September 1994. 1997-1998 were notable for the adoption of long-term targets for nitrogen reduction and habitat restoration, each capping multi-year planning efforts, as well as significant progress toward implementation. Some of the major accomplishments are summarized below:

#### **Eliminating Adverse Impacts of Low Dissolved Oxygen in the Sound:**

Low dissolved oxygen (hypoxia) has been identified as the most significant water quality problem in Long Island Sound. Since 1990 EPA and the states of Connecticut and New York have been implementing a phased program to cap and then reduce nitrogen loads to address the problem. *Phase I* froze nitrogen loads from certain point sources at 1990 levels to prevent the hypoxia problem from getting worse. *Phase II* involved low-cost improvements at sewage treatment plants to begin to reduce the amount of nitrogen reaching the Sound.

Hypoxia is a consequence of the over fertilization of the Sound with nutrients, primarily nitrogen. While nitrogen is a necessary nutrient, too much fuels the excessive growth of algae. These algae blooms cloud the water and shade the bottom. When the algae die and settle to the bottom, they decay using up oxygen during the process. Hypoxia occurs when there are low levels of oxygen in the water. This affects marine organisms that require oxygen to survive.

**Actions:** *Phase III* sets long-term nitrogen reduction targets to improve water quality and to increase dissolved oxygen. In 1997, the estimated nitrogen load from human activity that entered the Sound from the watershed was 35,100 tons, 3,900 tons below 1990 peak loadings.

- November 1996, New York voters approved a \$1.75 Billion Clean Water/Clean Air Bond Act with \$200 million set aside for Long Island Sound projects. New York State awarded funds (greater than \$9.4 million) to 6 sewage treatment plants for projects to be implemented in 1998 (Bellgrave, Glen Cove, Huntington, Bowery Bay, Port Washington, and Mamaroneck).
- In 1996-97, Connecticut awarded \$250 million for sewage treatment plant upgrades to benefit Long Island Sound. Construction has begun on 3 full denitrification plants (Norwalk, Waterbury and New Canaan), and 3 additional plants are in planning for denitrification.
- February 1997, the LISS released a proposal for *Phase III Actions for Hypoxia Management* calling for a 58.5 percent reduction in human caused nitrogen loads to the Sound over 15 years with interim targets to achieve 40 percent of the goal in 5 years and 75 percent of the goal in 10 years. This level of reduction is predicted to reduce the maximum area of the Sound unhealthy for fish and shellfish by 75 percent and the duration of unhealthy conditions by 85 percent. *Phase III* was adopted in February 1998.
- CTDEP, NYSDEC and the LIS Office Staff met with 70 municipalities throughout Connecticut and New York to present the implications of *Phase III* to those municipalities with sewage treatment plants.
- 1997 experienced the mildest hypoxic conditions seen in the Sound in more than 11 years. The maximum area and duration of dissolved oxygen levels less than 3 mg/l in the Sound was 57 Km<sup>2</sup> and 48 days. Low (less than 5mg/l) dissolved oxygen conditions began in early July. By the second week of August, dissolved oxygen less than 3 mg/l was recorded in bottom waters as far east as the New York/Connecticut boarder. By late September, however, dissolved oxygen recovered to above 5 mg/l everywhere in the Sound.
- Connecticut initiated a "Quinnipiac River Nitrogen Control Project" for nitrogen removal at the 5 sewage plants discharging to the nitrogen-rich river.
- The LISS is investigating a process for nitrogen trading as a potential tool to achieve reductions in the most cost effective manner.

### **Controlling Major Sources of Pathogens:**

Pathogens can cause illness in people exposed through bathing in or consuming shellfish from contaminated waters. Pathogen contamination results in closed beaches and shellfish areas, hurting local economies and damaging public perception of the Sound.

### **Protecting the Sound from the Adverse Effects of Toxic Substances:**

Toxic substances may cycle from sediments through the food chain and back into the sediments several times before finally becoming buried. Therefore, resuspension of contaminated sediments can be a continuing source of toxics.

### **Reducing Litter and Debris in the Sound:**

Trash floating in coastal waters is a nuisance or hazard for boaters, harms wildlife, and reduces our enjoyment of the Sound.

### **Restoring and Protecting Habitat:**

Restoring and protecting the overall abundance and diversity of habitats and living marine resources in the Sound contributes to the Sound's ecological and economic well being. Years of neglect and damaging actions have diminished the abundance and diversity of habitats and marine resources, causing water quality problems, habitat degradation and loss, and adverse land use and economic impacts.

### **Raising Public Awareness and Participation through Education and Outreach:**

A significant factor toward long-term *Comprehensive Conservation and Management Plan* effectiveness is the ability to increase the public's awareness of and participation in activities designed to protect Long Island Sound.

**Actions:** Phased combined sewer overflow (CSO) abatement projects, "no discharge zone" designations, and stormwater management projects are underway in both states to alleviate pathogen problems.

- New York City continues its \$1.5 billion program to abate CSOs scheduled for completion between 2001 and 2006.
- Connecticut continues phased abatement plans for municipalities with CSOs. There are \$560 million in Clean Water Funds for projects over the next 20 years.
- Both states are working on programs to control discharges from vessels. A "no discharge zone" has been designated for Mamaroneck Harbor and the Village of Port Washington Harbor.
- Fifteen marinas in New York have received Federal Clean Vessel Act funds for construction of boat pumpout facilities and funds have been provided for construction of 10-20 new facilities.
- Up to 5 pumpout facilities in Connecticut have received Clean Vessel Act funds, with operations and maintenance funding provided for up to 40 facilities.

**Actions:** EPA and the states of Connecticut and New York continue to evaluate existing regulatory and pollution prevention programs for toxics.

- EPA and the states are working together to update the *Interim Plan for Disposal of Dredged Materials in Long Island Sound*. Work has been completed on a report to provide background information necessary to update the interim plan, including information on current regulatory requirements, reviewing alternatives to open water disposal and identifying future research needs. The draft report was released in July 1998 for review.
- In June 1997, the Connecticut Hazardous Waste Management Service's Technical Assistance Program (ConnTAP) completed a five year project to provide pollution prevention technical assistance to Connecticut manufacturing facilities. Over the project period ConnTAP conducted 147 Pollution Prevention site assessments that identified how the use and disposal of toxic substances could be reduced.

**Actions:** Efforts to control combined sewer overflows (CSOs) and improve stormwater management are helping to reduce the amount of litter reaching the Sound.

- In 1997, 1,690 New York volunteers collected over 30,000 pounds of trash from over 46 miles of shoreline. In Connecticut, clean-ups involved over 550 volunteers and resulted in the removal of over 14,300 pounds of trash from 17.5 miles of shoreline.
- Volunteers have stenciled over 18,390 storm drains since 1991 with the message "Don't Dump-Drains to Long Island Sound" with 271 of these completed in 1997.



### Developing Comprehensive Watershed Protection Plans and Controlling Nonpoint Source Pollution:

Development of watershed plans can address nonpoint source pollution problems and habitat restoration efforts.

**Actions:** The LISS Habitat Restoration Initiative began in 1995 and has resulted in the identification and prioritization of more than 450 sites that are degraded and can be restored. The interagency Team is focusing on 12 types of terrestrial and aquatic habitats.

- The Team developed criteria used for prioritizing and ranking the sites. The goals of the Habitat Restoration Strategy include: 1) continuing the active partnership between federal agencies, states, local municipalities, environmental groups and the public; 2) restoring the ecological functions of degraded and lost habitat; 3) restoring at least 2,000 acres and 100 river miles of habitat within the first ten years of the initiative; and 4) completing a habitat restoration manual in 1998.
- The draft Habitat Restoration Strategy was completed and released for public review during May and was adopted by the Policy Committee in February 1998.
- EPA awarded funds in 1997 to six habitat restoration projects (4 in Connecticut and 2 in New York). The projects include tidal wetland and coastal grassland restoration and anadromous fish passage.
- The 1997 New York Bond Act funded four habitat restoration projects.
- Connecticut is completing computerized mapping of colonial waterbird habitat, while the US Fish and Wildlife Service has compiled related data for the Sound in New York. Connecticut completed in 1997 computer mapping of tidal wetlands using aerial photography.

**Actions:** Both states continue to prioritize funding for nonpoint source pollution control projects benefitting the Sound.

- The Norwalk River Watershed Initiative, established in 1996, released a draft Management Plan in June 1998.
- The Quinnipiac River Watershed Initiative was recently formed to address water quality, flooding, impoundment restoration, land use and public access, habitat and watershed education.
- Hempstead Harbor Protection Committee completed a Water Quality Improvement Plan.
- Manhasset Bay Protection Committee signed an intermunicipal agreement for cooperative planning on a Nonpoint Source Pollution and Water Quality Management Plan.
- Westchester County Department of Planning released the final plan for Watershed Advisory Committee 5 in June 1997. In April 1998 the final plan for Watershed Advisory Committee 3 was released. Planning efforts for Watershed Advisory Committee 4 are underway.
- 1998 funding for nonpoint source control projects in Connecticut totaled \$477,070. Examples include: Sasco Brook, to coordinate monitoring efforts and retrofit a residential stormwater detention pond; Fenger Brook, to coordinate installation of a Downstream Defender™ on Alewife Cove; and the Hockanum River, for the installation of Storm Treat™ at a fast food restaurant parking lot and installation of a Vortechs System™ in an elementary school parking lot.
- New York 1997 Long Island Sound Nonpoint Source Implementation Grants from the Environmental Protection Fund totaled \$123,750. Examples include: the Town of Huntington for an engineering feasibility study to manage the flow of stormwater into Centerport Harbor and the Town of Southold for a stormwater mitigation system for Mattituck Creek.





**Actions:** Educating Long Island Sound watershed residents and increasing the number of people that take an active interest in protecting and restoring the Sound helps to nurture stewardship ideals in the local communities. As the Sound is restored to a more healthy ecosystem these ideals will help ensure its maintenance well into the future.

- The LISS held nine public meetings, in May 1997, presenting the Habitat Restoration Strategy. More than 200 participants attended the public meetings and 10,000 posters depicting the nominated sites were produced and distributed.
- The LISS held six public meetings, in September 1997, presenting the *Phase III Proposal for Hypoxia Management*. More than 210 participants attended the public meetings and 5,000 copies of a 25 page report were produced and distributed to explain nitrogen reduction efforts.
- The LISS produced and distributed 2 fact sheets *The Impact of Atmospheric Nitrogen Deposition on Long Island Sound* and *Alternative Strategies for Hypoxia Management*.
- The LISS released 5 newsletters covering timely LISS topics: *Habitat Restoration*, *Dredged Sediment*, the *LISS Small Grants Program*, *Water Quality Monitoring*, and *Total Maximum Daily Loads*.
- During 1997 the Outreach Program presented 10 slide shows to 423 people and staffed 7 displays and distributed materials to over 20,000 people at various festivals and fairs. Staff also responded to 886 requests for information.
- CTDEP produced two videos, *The Living Sound* and *Long Island Sound: Everybody's Sound*, that explain the hypoxia problem in the Sound and management plans to address it.
- Displayed and handed out LISS materials at Earth Day, Coast Guard Day, and Oyster Festivals in Connecticut.
- The CTDEP License Plate Fund supports four categories of activities for outreach efforts, including public access, public education, habitat restoration, and research. Total funding was \$277,808 in 1997.
- The LISS expanded its frequently visited World Wide Web Site to include fact sheets, slide shows, newsletters, links and contact information. You can find the LISS Web Site at: [www.epa.gov/region01/eco/lis/](http://www.epa.gov/region01/eco/lis/).
- NYSDEC, CTDEP, and EPA provided outreach on Long Island Sound issues to local governments and local officials through workshops held during three 1997 Project Oceanology Long Island Sound cruises.
- In 1997 the Long Island Sound Small Grants Program funded 8 projects totalling \$19,643.44.

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Information summarized from the US Environmental Protection Agency, NY State Department of Environmental Conservation and CT Department of Environmental Protection *Tracking and Monitoring Report* to the LISS Citizens Advisory Committee. Layout and design by Kimberly Zimmer, New York Sea Grant, for the Long Island Sound Study, September 1998.

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